

NANOSMAT

Technical Programme

13th NANOSMAT Conference & 2nd NANOSMAT SCHOOL 2018

11-14 September 2018

VENUE: *Gdańsk University of Technology, Gdańsk, POLAND*

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Welcome to the 13th NANOSMAT Conference in Gdańsk

We are very pleased to welcome you to the **13th International Conference on Surfaces, Coatings and Nanostructured Materials (NANOSMAT)** held here at the *Gdańsk University of Technology* in Gdańsk, Poland. This conference is the 13th in the NANOSMAT conference series. NANOSMAT-1 (in 2005) and NANOSMAT-2 (in 2007) were both held in Portugal, whereas, NANOSMAT-3 (in 2008), NANOSMAT-4 (in 2009), NANOSMAT-5 (2010), NANOSMAT-6 (2011), NANOSMAT-7 (2012), NANOSMAT-8 (2013), NANOSMAT-9 (2014), NANOSMAT-10 (2015), NANOSMAT-11 (2016) and NANOSMAT-12 were held in Barcelona (Spain), Rome (Italy), Reims (France), Krakow (Poland), Prague (Czech Republic), Granada (Spain), Dublin (Ireland), Manchester (UK), Aveiro (Portugal) and Paris (France) respectively.

We would like to thank all the delegates for participating in this truly international NANOSMAT conference. We are thankful to all our invited speakers for accepting our invitation and offering to share their knowledge with the NANOSMAT delegates. This year's event will yet again host the highly successful *Young Scientist Lecture Competition*, which takes place on 11 September 2018. There will also be a *Best Poster Competition*.

The **2018 NANOSMAT Prize** will be awarded to **Professor Paul Weiss** from University of California, Los Angeles in USA who will deliver his award-winning lecture titled "*Global Opportunities in Nanoscience and Nanotechnology*". This year's **2018 "NANOSMAT AWARD"** will be presented to **Professor Ali Khademhosseini** from UCLA in USA who will lecture on "*Micro and nanoengineered hydrogels for regenerative engineering*". The **NANOSMAT Medal 2018** award will be presented to **Professor Florin Udrea** from University of Cambridge, UK who will lecture on "*Microsensors and nanotechnology applied to environmental monitoring: a powerful combination for the future*".

The **KROTO AWARD 2018** (in memory of the late **Sir Harold Kroto** FRS) will be presented to **Dr Michael Naguib** from Tulane University, USA for outstanding achievements in nanoscience and nanotechnology.

This year again the 13th NANOSMAT conference is being held in conjunction with the **Second NANOSMAT SCHOOL** (www.nanosmat-school.org). We hope the delegates will immensely benefit from this school.

We hope you will thoroughly enjoy the conference and will immensely benefit from attending NANOSMAT-2018. Enjoy the conference, Gdańsk and Poland.

NANOSMAT 2018 Chairs:

Professor Jeff De Hosson (Netherlands)

Professor Robert Bogdanowicz (Poland)

Dr Nasar Ali (UK)

10:00

11 September 2018

Registration

Young Scientist Lecture Competition (NANOSMAT SCHOOL)

Room: Aud. 2 NE

14:15 - 14:35	NANO-70: Łukasz Sadowski , Wrocław University of Science and Technology, Poland <i>"The effect of selected nanoparticles on the functional parameters of the cement overlays"</i>
14:35 - 14:55	NANO-146: Jose Enrico Quinsa , Swiss Federal Laboratories for Materials Science and Technology, Switzerland <i>"Surface-functionalized Silver Nanoparticles as High Permittivity Filler for Highly Flexible PDMS Nanocomposites"</i>
14:55 - 15:15	NANO-106: Aranssely Jesus Quiroz Chang , Pontificia Universidad Católica del Perú, Peru <i>"Correlation between SERS image versus AFM image of silver surfaces obtained by the Electroless techniques"</i>
15:15 - 15:35	NANO-201: Ana Antelava , London South Bank University, UK <i>"Development of Super Repellent Coatings"</i>
15:35 - 15:55	NANO-210: Mohd Asyraf Mohd Razib , International Islamic University Malaysia, Malaysia <i>"Tip bending method of Vertically Aligned Carbon Nanotubes (VACNTs) for Angle Sensing Application"</i>
15:55 - 16:15	NANO-153: Karolina Cysewska , Gdańsk University of Technology, Poland <i>"Electrochemical degradation of iron protected with polypyrrole films used for biodegradable cardiovascular stents studied by odd random phase electrochemical impedance spectroscopy"</i>
16:15 - 16:35	NANO-194: Moussa Mahamat Yaya , Bradford University, UK <i>"Development of liposomal Hydrocortisone Acetate and Sodium Succinate formulation for topical Ophthalmic Drug Delivery using a microfluidic system"</i>
16:35 - 16:55	NANO-107: Marcin Krajewski , Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland <i>"Magnetic-field-induced synthesis of bimetallic wire-like nanostructures"</i>

12 September

08:30

Registration

09:00 - 09:30	Welcome Address (Room: Aud. 1 NE) Professor Robert Bogdanowicz , Co Chair (Poland) Professor Jeff De Hosson , Chair (Netherlands) Dr Nasar Ali , Chair (UK) Dean/Rector of Gdańsk Technical University, Poland
09:30 - 10:15	PLN-1: Professor Paul Weiss , University of California, Los Angeles, USA <i>"Global Opportunities in Nanoscience and Nanotechnology"</i> 2018 NANOSMAT PRIZE

10:15 - 11:00	INV-10: Professor Florin Udrea , University of Cambridge, UK <i>"Microsensors and nanotechnology applied to environmental monitoring: a powerful combination for the future"</i> 2018 NANOSMAT MEDAL
11:00 - 11:30	Refreshment break
11:30 - 12:15	PLN-2: Professor Ali Khademhosseini , University of California, Los Angeles, USA <i>"Micro and nanoengineered hydrogels for regenerative engineering"</i> 2018 NANOSMAT AWARD
12:15 - 13:00	PLN-4: Dr Michael Naguib , Tulane University, USA (2018 KROTO AWARD) <i>"MXenes, the fastest growing family of 2D materials: an overview for their synthesis, properties and applications"</i>
13:00 - 14:00	Lunch

Time	Session: Carbon & Nanotechnology Chair(s): Michael Naguib Room: Aud. 1 NE	Time	Session: Nanoparticles & Nanofibres Chair(s): Florin Udrea Room: Aud. 2 NE:
14:00 - 14:30	INV-20: François Béguin , Poznan University of Technology, Poland <i>"Energy Storage Mechanisms in Nanocarbons Electrodes Used for Electrochemical Capacitors"</i>	14:00 - 14:30	INV-25: Dragan Indjin , University of Leeds, UK (invited) <i>"Progress in terahertz quantum-cascade lasers and their application to optical feedback interferometry for sensing and imaging"</i>
14:30 - 14:45	NANO-175: Juana L. Gervasoni , Centro Atómico Bariloche, Argentina <i>"Properties of plasmons in graphene traversed by electrons with arbitrary trajectories"</i>	14:30 - 14:45	NANO-140: Ekabhan Swatsitang , Khon Kaen University, Thailand <i>"Nanocrystalline (Na_{1/3}Ca_{1/3}Yb_{1/3})Cu₃Ti₄O₁₂ Ceramics by a Simple Thermal Combustion Method: Preparation, Characterization, Dielectric and Nonlinear Electrical Properties"</i>
14:45 - 15:00	NANO-77: Shunji Kurosu , Toyo University, Japan <i>"Control of the patterns formed by vertically aligned carbon nanotubes"</i>	14:45 - 15:00	NANO-103: Maribel Guzman , Pontifical Catholic University of Peru, Peru <i>"Application of luminescent properties of zinc nanoparticles obtained by chemical process in the detection of fingerprints"</i>
15:00 - 15:15	NANO-46: Alexey Ermakov , Saratov State University, Russia <i>"Composite Multilayer Films Based on Polyelectrolytes and Carbon Nanostructures for Light Responsive Microchambers"</i>	15:00 - 15:15	NANO-145: Theeranuch Nachaithong , Khon Kaen University, Thailand <i>"Fe³⁺/Nb⁵⁺ Co-doped Rutile-TiO₂ Nanocrystalline Powders Prepared by a Combustion Process: Preparation, Characterization and Their Giant Dielectric Response"</i>
15:15 - 15:30	NANO-155: Jacek Ryl , Politechnika Gdańska, Poland <i>"Multistage modification process of high boron-doped diamond electrodes under various oxidation factors: the influence of polycrystalline structure"</i>	15:15 - 15:30	NANO-174: Juana L. Gervasoni , Centro Atómico Bariloche, Argentina <i>"Oxide dispersion of nano-yttria particles in a tungsten matrix under alpha emission"</i>

15:30 - 15:45	NANO-71: Łukasz Sadowski , Wrocław University of Science and Technology, Poland <i>"Micromechanical properties within the interphase between heterogeneous layers"</i>	15:30 - 15:45	NANO-177: Beata Bochentyn , Gdańsk University of Technology, Poland <i>"The influence of nanocrystalline ceria-based compounds on the direct internal reforming of biogas in Solid Oxide Fuel Cells"</i>
15:45 - 16:00	NANO-124: Michał Sobaszek , Gdańsk University of Technology, Poland <i>"Diamond thin films by growth in D₂/CH₄/B₂H₆ microwave plasma-assisted CVD process"</i>	15:45 - 16:00	INV-14: Yannick Coffinier , Univ. Lille, CNRS, France (invited) <i>"Nanomaterials for mass spectrometry"</i>
16:00	Refreshments break		
16:00 - 18:00	Poster Session (see list below)		

Time	NANOSMAT SCHOOL Room: 308/309 NE		
14:00- 15:45	Professor Jeff Th M. De Hosson , University of Groningen, Netherlands <i>"Nanostructured materials and advances in electron microscopy"</i>		
16:00	Refreshments break		
16:00 - 18:00	Poster Session (see list below)		

13 September

09:30 - 10:00	Room: Aud. 1 NE INV-11: Professor Bill Milne , University of Cambridge, UK <i>"Thin Film Bulk Acoustic Resonator (FBAR) devices for Gravimetric and Bio-Sensing applications"</i>
10:00 - 10:30	INV-2: Professor Jeff De-Hosson , University of Groningen, Netherlands <i>"Manipulations of nanostructures with ions and electrons"</i>
10:30 - 11:00	INV-8: Riccardo Polini , Università di Roma "Tor Vergata", Italy <i>"From tungsten minerals to sintered cemented tungsten carbides: the carbothermic reaction shortcut"</i>
11:00 - 11:30	Refreshments break

Time		NANO-Mediterranean: Developments in Nano Chair(s): Paul Weiss, M. Khenfouch Room: Aud. 1 NE	Time		Session: Thin Films & Surface Coatings Chair(s): Ali Khademhosseini Room: 308/309 NE
11:30 - 11:45	NANO-182: Daniele M. Trucchi , CNR - ISM (Institute of Structure of Matter), Italy <i>"Engineered nanostructured thin films for thermionic-photovoltaic energy conversion at ultra-high temperatures"</i>	11:30 - 11:50	INV-27: P. Louda , Technical University of Liberec, Czech Republic (invited) <i>"Tribological properties evaluation of antioxidant composite films for food packaging"</i>		
11:45 - 12:00	NANO-43: Ramazan KARSLIOĞLU , Yildirim Beyazit Üniversitesi, Turkey <i>"Electrical contact performance of Nano SiC reinforced Ag produced by electrodepositions"</i>	11:50 - 12:10	INV-17: Andrzej Wyszomolka , University of Warsaw, Poland (Invited) <i>"Extraordinary properties of two-dimensional crystals - from graphene to transition metal dichalcogenides"</i>		
12:00 - 12:15	NANO-12: Galder Kortaberria Altzerreka , Escuela de Ingeniería de Gipuzkoa (UPV/EHU), Spain <i>"Nanocomposites based on SBM block copolymer and Ag nanoparticles: Morphological and dielectric analysis"</i>	12:10 - 12:25	NANO-6: Kwang-Seok Kim , Korea Institute of Industrial Technology, Korea <i>"Thermochromic Properties of Vanadium Dioxide Nanoparticle Films Sintered by Intense Pulsed Light"</i>		
12:15 - 12:30	NANO-119: Yusuf Efe , Karabuk University, Turkey <i>"Dry sliding wear, friction and axial fatigue behavior of AA7075 aluminum alloy with a nanograined layer"</i>	12:25 - 12:40	NANO-219: Ahmed EL-Mallul , Warsaw Medical University, Poland <i>"Hernia mesh modified by nanocomposite nc-TiC/a-C:H coating deposited by magnetron sputtering as anti-bacterial colonization"</i>		
12:30 - 12:45	NANO-118: Ibrahim Karademir , Karabuk University, Turkey <i>"Comparison of bulk and surface nanocrystallization on the mechanical properties of S500MC automotive steel"</i>	12:40 - 12:55	NANO-51(2): Polina Demina , Saratov State University, Russia <i>"Conductive coatings on flexible electrospun substrates by vacuum magnetron sputtering for implantable electrodes"</i>		
12:45 - 13:00	NANO-1: Ahmed G. Hassabo , National Research Centre, Egypt <i>"Hyper-Branched Polymer as a Nano-Reactor for Functionalization Cotton Fabric"</i>				
13:00 - 14:00	Lunch				

Time		NANOSMAT SCHOOL	
		Room: 308/309 NE	
11:30-13:00	Professor Werner Blau , Trinity College Dublin, Ireland <i>"Carbon nanotube and graphene: fundamentals and applications"</i>		
13:00 - 14:00	Lunch		

Time	Session: Nanoengineering Chair(s): Piotr Jasiński Room: Aud. 1 NE	Time	Session: Energy Chair(s): Giuseppe Fierro Room: Aud. 2 NE
14:00 - 14:20	NANO-122: K. Zakrzewska , AGH University of Science and Technology, Poland (Invited) <i>"Recent advances in metal oxide nanomaterials for gas sensing and photocatalytic applications"</i>	14:00 - 14:20	NANO-168: Paweł Niedziałkowski , University of Gdańsk, Poland (invited) <i>"Chemically modified electrodes towards electrochemical detection of selected biomolecules"</i>
14:20 - 14:35	NANO-37: Junaiz Rehmen , University of South Australia, Australia <i>"Process Engineering of Vapour Deposited Conducting Polymers for Electrochemical and Sensing Applications"</i>	14:20 - 14:35	NANO-55: Agata Obstarczyk , Wrocław University of Science and Technology, Poland <i>"Effect of post-process annealing on optical and electrical properties of HfO₂ – TiO₂ thin films coatings"</i>
14:35 - 14:50	NANO-109: Zhongliang Hu , University of Leeds, UK <i>"Experiment Investigation of Nanoparticle-assisted Enhanced Oil Recovery and Oil Reservoir Characterization"</i>	14:35 - 14:50	NANO-143: Nateeporn Thongyong , Khon Kaen University, Thailand <i>"Effects of Surface Layer on Giant Dielectric and Electrical Properties of Rutile- (Mg_{1/3}Ta_{2/3})_{0.01}Ti_{0.99}O₂ Ceramic"</i>
14:50 - 15:05	NANO-172: Marcin Koba , Warsaw University of Technology, Poland & National Institute of Telecommunications, Poland <i>"Tailoring thin ITO films towards their combined optical and electrochemical sensing applications"</i>	14:50 - 15:05	NANO-181: M. Khenfouch , University of South Africa, South Africa <i>"Graphene Materials Thin Films For Efficient Solar Cells"</i>
15:05 - 15:20	NANO-80: Paulina Listewnik , Gdańsk University of Technology, Poland <i>"Fibre-optic sensor based on microsphere with ZnO ALD thin films"</i>	15:05 - 15:20	NANO-185: Bartosz Kamecki , Gdańsk University of Technology, Poland <i>"Ex-solution of transition metals nanoparticles in doped SrTiO₃ perovskite fuel electrodes"</i>
15:20 - 15:35	NANO-110: Łukasz Skowroński , UTP University of Science and Technology, Poland <i>"TiO₂/Ti/Glass decorative coatings – effect of thickness and optical constants of the dielectric layer"</i>	15:20 - 15:35	NANO-180: B.M. Mothudi , University of South Africa, South Africa <i>"Fabrication of hybrid GO/ZnO/P3HT heterojunction devices for solar cell applications"</i>
15:35-16:00	Refreshment break		

Time		NANOSMAT SCHOOL	
		Room: 308/309 NE	
14:00 - 15:30	Professor Bill Milne , University of Cambridge, UK <i>"Functional properties and Nanodevices"</i>		
15:35-16.00	Refreshment break		

Time		Session: Nanotechnology for microelectronics devices	Time	Session: Nanocomposites
		Chair(s): Piotr Dumania (Poland) Room: Aud. 1 NE		Chair(s): Jean Ebothe Room: Aud. 2 NE
16:00 - 16:15	INV-26: Stanislaw Mitura , Technical University of Liberec, Czech Republic <i>"Electromagnetic shielding properties of carbon nets"</i>		16:00 - 16:15	NANO-131: Jutapol Jumpatam , Khon Kaen University, Thailand <i>"Giant Dielectric Response, Electrical Properties and Nonlinear Current-Voltage Characteristic of Al₂O₃-CaCu₃Ti₄O₁₂ Nanocomposites"</i>
16:15 - 16:30	NANO-213: Marek Guziewicz , Institute of Electron Technology, Poland <i>"Electrically Conductive Coatings of Copper-based Metallization for Power Devices"</i>		16:15 - 16:30	NANO-132: Wattana Tuichai , Khon Kaen University, Thailand <i>"Significantly Increased Dielectric Permittivity with Suppressing Loss Tangent in PVDF Polymer Composites Filling with Nano Ag-Deposited (In_{1/2}Nb_{1/2})_{0.1}Ti_{0.9}O₂ Hydride Particles"</i>
16:30 - 16:45	NANO-215: Joanna Jankowska-Śliwińska , Institute of Electron Technology, Poland <i>"Thin-film transistors with spin-coated In-Ga-Zn-O channel layers"</i>		16:30 - 16:45	NANO-137: Pornsawan Kum-onsa , Khon Kaen University, Thailand <i>"Dielectric Properties of Poly(vinylidene fluoride)-Based Polymer Nanocomposites Filled with TiO₂ Nanorods"</i>
16:45 - 17:00	NANO-220: Krzysztof Zaraska , Institute of Electron Technology, Poland <i>"A distributed wireless data acquisition system for piezopolymeric force sensors"</i>		16:45 - 17:00	NANO-142: Kanyapak Silakaew , Khon Kaen University, Thailand <i>"Suppressed Loss Tangent and Conductivity in High-Permittivity Ag-BaTiO₃/PVDF Nanocomposites by Blocking with BaTiO₃ Nanoparticles"</i>
19:30	Conference Dinner			

14 September

Time	Session: Invited 1 Chair(s): Abdelhafed TALEB Room: Aud. 1 NE	Time	Session: Invited 2 Chair(s): Robert Bogdanowicz Room: Aud. 2 NE
09:30 - 10:00	INV-13: Rabah Boukherroub , Univ. Lille, CNRS, France <i>"Graphene-based hybrid materials for sensing"</i>	09:30 - 10:00	INV-26: Daniele M. Trucchi , CNR - ISM (Institute of Structure of Matter), Italy <i>"High-Temperature Solar Cells based on Black Diamond Technology"</i>
10:00 - 10:30	INV-1: Professor Jag Sankar , North Carolina A & T State University, USA <i>"Biodegradable metals and degradable implant technologies – A status update"</i>	10:00 - 10:30	INV-21: Alicja Anuszkiewicz , Institute of Electronic Materials Technology, Warsaw, Poland <i>"Nanostructured optical components and fibers with arbitrary refractive index distribution"</i>
10:30 - 11:00	INV-12: Joanna Jonsson-Niedziolka , Institute of Physical Chemistry, Polish Academy of Sciences, Poland (Invited) <i>"Surface plasmon resonance in long silver nanowires for biosensing"</i>	10:30 - 11:00	INV-5: Katarzyna Mitura , Koszalin University of Technology, Poland (Invited) <i>"Adhesion of bacterial films on the polymer food films with nanocarbon"</i>
11:00 - 11:30	Refreshments break		

Time

NANOSMAT SCHOOL

Room: 308/309 NE

09:30 - 11:00	Professor Giuseppe Fierro , La Sapienza, Roma, Italy <i>"Nano's and Catalysis"</i>
11:00 - 11:30	Refreshments break

Time

Session: Nanotechnologies

Chair(s): Werner Blau

Room: Aud. 1 NE

Time

Session: Beyond NANO

Chair(s): Jag Sankar

Room: Aud. 2 NE

11:30 - 11:50	INV-7: Jean Ebothe , University of Reims, France <i>"Real Surface Feature and Physical Properties of Nano-structured Thin Films"</i>	11:30 - 11:45	NANO-214: Roman Major , Institute of Metalurgy and Materials Science, Polish Academy of Sciences, Poland (Invited) <i>"Artificial Mechanical Heart Valve dedicated for the Heart Assist System"</i>
11:50 - 12:10	INV-4: Giuseppe Fierro , CNR, ISMN Institute at Dept. of Chemistry, 'SAPIENZA' University of Rome, ITALY (Invited) <i>"A typical case of nano-sized active site: the NO decomposition on Cu-ZSM-5 catalysts through pairs of Cu(I) species"</i>	11:45 - 12:00	NANO-38: Iwona Cieřlik , National Center for Nuclear Research, POLAND <i>"Study of toxicology in an active optical nanocrystals"</i>

12:10 - 12:30	INV-18: Aneta Drabinska , University of Warsaw, Poland (Invited) <i>"Raman scattering and microwave spectroscopy of graphene and its heterostructures"</i>	12:00 - 12:15	NANO-45: Ekaterina Lengert , Saratov State University, Russia <i>"Submicron Mesoporous Vaterite Particles for Transdermal Delivery of Antimycotic Drug Griseofulvin"</i>
12:30 - 12:45	NANO-81: Tomofumi Ukai , Toyo University, Japan <i>"Structures Formed via Self-assembly in a Superparamagnetic Colloidal Suspension Subjected to an External Magnetic Field"</i>	12:15 - 12:30	NANO-79: Masashi Suzuki , Toyo University, Japan <i>"Nanostructures composed of enzyme and ferromagnetic nanoparticles, and their enzymatic activity under external magnetic fields"</i>
12:45 - 13:00	NANO-27: Sedlovetz Daria M. , Institute of Microelectronics Technology and High Purity Materials RAS, Russia <i>"Lithography-free direct CVD of graphene-like microstructure"</i>	12:30 - 12:45	NANO-88: Felipe V. P. Kodaira , São Paulo State University (UNESP), Brazil <i>"Plasma deposited HEMA-co-DEAEMA hydrogel coatings for drug release"</i>
13:00 - 13:15	NANO-106: Aranssely Jesus Quiroz Chang , Pontificia Universidad Católica del Perú, Peru <i>"Correlation between SERS image versus AFM image of silver surfaces obtained by the Electroless techniques"</i>	12:45 - 13:00	NANO-89: Toru Mizuki , Toyo University, Japan <i>"Synthesis and characterization of rare sugar functionalized graphene oxide"</i>
13:15 - 13:30	NANO-73: H.D. Mejía , University of Antioquia, Colombia <i>"Microstructural, mechanical and tribological properties of TiAlN- (Ag,Cu) nanocomposite coatings deposited by DC magnetron sputtering for medical applications"</i>	13:00 - 13:15	NANO-102: Her-Hsiung Huang , National Yang-Ming University, Taiwan <i>"Nanoporous Titanium Oxide Network on Titanium Surface Enhances Blood Coagulation and Osteogenic Response"</i>
13:30 - 13:45	NANO-24: Alexander Pak , Tomsk Polytechnic University, Russia <i>"The Direct Current Arc Plasma Atmospheric Synthesis of the Silicon Carbide"</i>	13:15 - 13:30	NANO-199: Michał Wąsowicz , Warsaw University of Life Sciences, Poland (Invited) <i>"Compatibility of red blood cells with modified nanodiamonds"</i>
		13:30 - 13:45	NANO-189: Akiyoshi Nakayama , Kanagawa University, Japan <i>"Estimation of Pinhole Junction Position in Superconducting Quantum Interference Device Structure from Two-dimensional Magnetic Field Dependence of Josephson Current"</i>
13:45 - 14:45	Lunch		

Time	NANOSMAT SCHOOL Room: 308/309 NE
11:30 - 13:00	Professor Abdelhafed TALEB , Pierre & Marie Curie University, France <i>"Nanomaterials: An overview from synthesis to nanotechnological applications"</i>
13:45 - 14:45	Lunch

Time		Session: Nanoscience 1	Time		Session: Nanoscience 2
		Chair(s): Bill Milne			Chair(s): Stanislaw Mitura
		Room: Aud. 1 NE			Room: Aud. 2 NE
14:45 - 15:00	NANO-7: Eun-Won Son , Korea Institute of Industrial Technology & Chonbuk National University, Korea <i>"Effects of MWNT Contents on Thermal Properties of Cu-MWNT Nanocomposites Sintered by Intense Pulsed Light"</i>	14:45 - 15:00	NANO-146: Jose Enrico Quinsaat , Swiss Federal Laboratories for Materials Science and Technology, Switzerland <i>"Surface-functionalized Silver Nanoparticles as High Permittivity Filler for Highly Flexible PDMS Nanocomposites"</i>		
15:00 - 15:15	NANO-13: Eric Kumi Barimah , University of Leeds, UK <i>"Femtosecond-Pulsed Laser Deposition of Erbium-Doped Glass Nanoparticles in Polymer Layers for Hybrid Optical Waveguide Amplifiers"</i>	15:00 - 15:15	NANO-169: Sergei Zhevnenko , National University of Science and Technology "MISIS", Russia <i>"Ordering of Cobalt Surface Particles by Moving Grain Boundaries in Copper"</i>		
15:15 - 15:30	NANO-40: Heedae Kim , Northeast Normal University, China <i>"The density of states in Coupled Quantum Rings by temperature dependence of radiative decay time"</i>	15:15 - 15:30	NANO-107: Marcin Krajewski , Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland <i>"Magnetic-field-induced synthesis of bimetallic wire-like nanostructures"</i>		
15:30 - 15:45	NANO-40(2): Heedae Kim , Northeast Normal University, China <i>"Temperature dependence of fine structure splitting in a single GaAs quantum ring"</i>	15:30 - 15:45	NANO-112: Aneta Lewkowicz , University of Gdańsk, Poland <i>"Spectroscopic and structural properties of hybrid materials doped with 1,8-diazafluoren-9-one"</i>		
15:45 - 16:00	NANO-144: Kamila Żelechowska , Gdańsk University of Technology, Poland <i>"Phosphonated carbon nanostructures"</i>	15:45 - 16:00	NANO-178: Bartosz Trawiński , Gdańsk University of Technology, Poland <i>"Oxide reduction method for synthesis of nanostructured thermoelectric bismuth telluride"</i>		
16:00 - 16:15	NANO-97: Norimichi Watanabe , Kanagawa University, Japan <i>"Modulation characteristics of a Josephson current through a superconducting tunnel junction by applying the parallel magnetic field (Hx, Hy) and perpendicular magnetic field Hz"</i>	16:00 - 16:15	NANO-176: Iga Lewandowska , Gdańsk University of Technology, Poland <i>"Hydration of BaLnLn'Co2O6-δ"</i>		
16:15 - 17:00	Refreshment break & Concluding Remarks (Also Laboratory Tours)				

Time		NANOSMAT SCHOOL
		Room: 308/309 NE
14:45 - 16:15	Professor Robert Bogdanowicz , Gdańsk University of Technology, Poland <i>"Spectroscopic ellipsometry - efficient tool for thin film analysis"</i>	
16:15 - 17:00	Refreshment break & Concluding Remarks (Also Laboratory Tours)	

POSTERS

NANO-12(2): Galder Kortaberria Altzerreka, Escuela de Ingeniería de Gipuzkoa (UPV/EHU), Spain
"New "all polymer dielectrics" based on poly(itaconates)"

NANO-16: Chanseob Cho, Kyungpook National University, Korea
"Formation of Nanoporous Ag Films as Substrates for Surface-Enhanced Raman Scattering"

NANO-19: Sae-Wan Kim, Kyungpook National University, Korea
"Solution Processible Organic/Inorganic hybrid WORM (Write Once Read Many) Device based on Quantum Dots/PVK"

NANO-22: Shin-Won Kang, Kyungpook National University, Korea
"High stability quantum-dots light emitting device using butylated hydroxytoluene"

NANO-28: Sedlovets Daria M., Institute of Microelectronics Technology and High Purity Materials RAS, Russia
"Nickel polyphthalocyanine – 2D conductive polymer"

NANO-33: Hanna Slominska, Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland
"The effect of titanium incorporation on the properties of W-Ti-B superhard films deposited by PLD and MS methods"

NANO-39: Iwona Cieřlik, National Center for Nuclear Research, POLAND
"Study of strength properties after high temperaturecrawl conditions in ceramic thermal barrier coatings based on IN 740"

NANO-42: Chil Seong Ah: Electronics and Telecommunications Research Institute (ETRI), Korea
"Inorganic-organic hybrid electrochromic mirror device"

NANO-44: Ramazan KARSLIOĐLU, Yıldırım Beyazıt Üniversitesi, Turkey
"Effect of SiC Ratio in to Ag Matrix nanocomposite on Electrical contact performance produced by electrodepositions"

NANO-47: Marcin Marzejon, Gdańsk University of Technology, Poland
"Simultaneous measurement of properties of liquids using fiber Fabry-Pérot interferometer and section of tapered fiber"

NANO-48: Mitina Alena A., Institute of Microelectronics Technology and High Purity Materials RAS, Russia
"The Investigation of Low Temperature Process of MWCNT Synthesis by Ethanol Pyrolysis"

NANO-49: Mitina Alena A., Institute of Microelectronics Technology and High Purity Materials RAS, Russia
"Raman spectroscopy of e-beam exposed SiO₂/Si"

NANO-50: Muratova Ekaterina Nikolaevna, Saint Petersburg Electrotechnical University "LETI", Russia
"Black antireflection composite coatings based on nanostructured carbon-containing anodic alumina"

NANO-50(2): Muratova Ekaterina Nikolaevna, Saint Petersburg Electrotechnical University "LETI", Russia
"Localization of ionizing radiation using nanoporous alumina matrices"

NANO-51: Polina Demina, Saratov State University, Russia
"Microcontainers based on polymers and titanium dioxide"

NANO-53: Kazuaki Masui, Kitami Institute of Technology, Japan
"Surface Plasmon Resonance and Its Emission Enhancement Properties of Ag Nanoparticles and Thin-films with Organic Emitter"

<p>NANO-56: Takuya Kitabayashi, Kitami Institute of Technology, Japan <i>"Fabrication and Its Optical Properties of Microcavity with Organic Emitter by Thermal Evaporation"</i></p>
<p>NANO-57: Vesna Blažek Bregović, Ruđer Bošković Institute, Croatia <i>"Electric field assisted dissolution as a method for Ti, In, Zn and Ge doping of soda-lime glass"</i></p>
<p>NANO-58: Roohan Thirayatorn, Khon Kaen University, Thailand <i>"The DFT study of the electronic and optical properties of the surface passivated SiGe, SiSn and GeSn nanostructures"</i></p>
<p>NANO-59: Pornsawan Sikam, Khon Kaen University, Thailand <i>"The study of structural, morphological and optical properties of (Al, Ga)-doped ZnO: DFT and experimental approaches"</i></p>
<p>NANO-62: Zuzanna Molenda, The Szewalski Institute IMP PAN, Poland <i>"Enzymatic glucose sensor based on Au-Ti heterostructure"</i></p>
<p>NANO-63: Zuzanna Molenda, The Szewalski Institute IMP PAN, Poland <i>"Novel approach to the fabrication of Cu/Cu_xO nanoparticles onto TiO₂ nanotubes by means of laser irradiation"</i></p>
<p>NANO-64: Wojciech Maziarz, AGH University of Science and Technology, Poland <i>"SnO₂/TiO₂ and CuO/TiO₂ thin film nano-heterostructures as gas sensors"</i></p>
<p>NANO-65: Monika Kosowska, Gdańsk University of Technology, Poland <i>"Numerical modelling of multi-cavity Fabry-Pérot interferometer with diamond thin films"</i></p>
<p>NANO-66: Daria Majchrowicz, Gdańsk University of Technology, Poland <i>"Diamond based integrated optics structure for biosensors application"</i></p>
<p>NANO-67: Lara Mikac, Ruđer Bošković Institute, Croatia <i>"Radiolytic Synthesis of Manganese Oxides and Their Ability to Degrade Methylene Blue Aqueous Solution"</i></p>
<p>NANO-68: Dominik Maskowicz, The Szewalski Institute IMP PAN, Poland <i>"Effect of structural water content on spin switching in nanocrystalline [Fe(pz)Pt(CN)₄] films prepared by matrix-assisted pulsed laser evaporation"</i></p>
<p>NANO-69: Dominik Maskowicz, The Szewalski Institute IMP PAN, Poland <i>"Towards superior SERS platforms via various fabrication routes"</i></p>
<p>NANO-72: Sonali Rohiwal, Institute of Animal Physiology and Genetics CAS, Czech Republic <i>"Nanoparticles mediated non-viral CRISPR/Cas system for genome editing"</i></p>
<p>NANO-74: Hyunung Yu, Korea Research Institute of Standards and Science, Korea <i>"Photocatalytic and Chemical Sensing Effect of Rapidly Synthesized Cerium Oxide Nanorods"</i></p>
<p>NANO-76: Masayuki Karube, Toyo University, Japan <i>"Cluster formation and enzymatic activity of enzyme/ferromagnetic particle hybrids under an ac/dc combined magnetic field"</i></p>
<p>NANO-78: Takahiro Kawamata, Toyo University, Japan <i>"PCR utilizing the photothermal effect of carbon-encapsulated iron nanoparticles"</i></p>
<p>NANO-82: Giuseppe Fierro, CNR-ISMN at 'SAPIENZA' - University of Rome, Italy <i>"Synergistic inhibition effect of Chitosan and L-Cysteine for corrosion protection of copper-based alloys"</i></p>
<p>NANO-83: Giuseppe Fierro, CNR-ISMN at 'SAPIENZA' - University of Rome, Italy <i>"Micro-chemical investigation of corrosion products naturally grown on archaeological Cu-based artefacts retrieved from sea-water"</i></p>
<p>NANO-84: Giuseppe Fierro, CNR-ISMN at 'SAPIENZA' - University of Rome, Italy <i>"Surface studies of patinas naturally grown on ornamental high-tin bronze artefacts from the pre-Roman necropolis of ancient Abruzzo (Central Italy)"</i></p>

<p>NANO-85: Rafał Chodun, Warsaw University of Technology, Poland <i>"The substrate/coating interfacial region formed by magnetron sputtering method controlled by gas pulses"</i></p>
<p>NANO-86: Rafał Chodun, Warsaw University of Technology, Poland <i>"Synthesis and optomechanical characterization of thin nc-WC/a-C coatings produced by Gas injection Magnetron Sputtering (GiMS) technique"</i></p>
<p>NANO-87: Takayuki Kiba, Kitami Institute of Technology, Japan <i>"Emission enhancement and its picosecond dynamics of organic emitter with Ag and Al nanotriangle arrays fabricated by nanosphere lithography"</i></p>
<p>NANO-90: Jong-Seol Park, Hanyang University, Korea <i>"Silver nanowire transparent electrodes coated with PEDOT:PSS for anti-static electricity"</i></p>
<p>NANO-91: Ria Yoo, Hanyang University, Korea <i>"Solution-based fabrication and characterization for nickel-coated copper random-mesh electrodes embedded in a flexible substrate"</i></p>
<p>NANO-94: Maraeva Evgeniya Vladimirovna, Saint Petersburg Electrotechnical University "LETI", Russia <i>"Thermodynamic Analysis And Experimental Study On The Oxidation Of PbX (X=S, Se) Nanostructured Layers"</i></p>
<p>NANO-94(2): Maraeva Evgeniya Vladimirovna, Saint Petersburg Electrotechnical University "LETI", Russia <i>"Analysis Of Fractal Dimension By Sorption Methods In Porous Nanomaterials Of Various Functional Purposes"</i></p>
<p>NANO-95: Nikolaj Višniakov, Vilnius Gediminas Technological University, Lithuania <i>"Microstructure, Hardness, and Tribological Characteristics of Bilayer Cr-UDD/MoN Coating"</i></p>
<p>NANO-96: Nikolaj Višniakov, Vilnius Gediminas Technological University, Lithuania <i>"Nanostructured NiCrFeCSiC/WC coatings after laser processing versus coatings obtained with conventional re-melting techniques"</i></p>
<p>NANO-98: Takuya Hikosaka, Kanagawa University, Japan <i>"Influence of the thickness of the base Nb layer in a Josephson junction on flux trapping"</i></p>
<p>NANO-99: Kazuki Kobayashi, Kanagawa University, Japan <i>"Influence of the Al thickness of Nb/Al-AlOx/Nb Josephson junction on the current-voltage characteristics and two-dimensional magnetic field dependence of a Josephson junction"</i></p>
<p>NANO-102(2): Her-Hsiung Huang, National Yang-Ming University, Taiwan <i>"Enhancing Corrosion Resistance and Biocompatibility of Interconnected Porous b-type Ti-24Nb-4Zr-8Sn Alloy Scaffold through Alkaline Treatment and Type I Collagen Immobilization"</i></p>
<p>NANO-104: Teodor I. Milenov, Institute of Electronics- Bulgarian Academy of Sciences, Bulgaria <i>"Pulsed Laser Deposition of Thin Carbon Films on SiO₂/Si substrates"</i></p>
<p>NANO-108: Zygmunt Miłosz, Adam Mickiewicz University, Poland <i>"Si(100) surface restructuring induced by Cu deposition: an STM study"</i></p>
<p>NANO-108(2): Zygmunt Miłosz, Adam Mickiewicz University, Poland <i>"Tuning the structure of ultrathin iron oxide islands on Ru(0001) by UHV annealing"</i></p>
<p>NANO-110(2): Łukasz Skowroński, UTP University of Science and Technology, Poland <i>"Microstructural and optical properties of ZnOx layers produced by eBEAM"</i></p>
<p>NANO-111: Grzegorz Witold Strzelecki, National Centre of Nuclear Research, Poland <i>"Impact of different Cu₃N structure on properties of layers"</i></p>
<p>NANO-111(2): Grzegorz Witold Strzelecki, National Centre of Nuclear Research, Poland <i>"Synthesis of metallic layers in different electrical conditions of plasma generation"</i></p>

<p>NANO-120: Yu. M. Spivak, Saint Petersburg Electrotechnical University "LETI", Russia <i>"Physical and chemical properties of porous silicon particles for targeted delivery to the inner ear"</i></p>
<p>NANO-121: Yu. M. Spivak, Saint Petersburg Electrotechnical University "LETI", Russia <i>"Investigation of a program-controlled process of impregnation of porous phosphide gallium with silver nanoparticles to create an electrical contact"</i></p>
<p>NANO-123: K. Zakrzewska, AGH University of Science and Technology, Poland <i>"MoO₃/graphene thin film system for organic electronics"</i></p>
<p>NANO-129: Teodor I. Milenov, Institute of Electronics- Bulgarian Academy of Sciences, Bulgaria <i>"Synthesis of Nano-dispersed Carbon Phases in a Water by Pulsed Laser Ablation of Graphite"</i></p>
<p>NANO-133: Maciej Wróbel, Gdańsk University of Technology, Poland <i>"Application of protein-tethering in surface-enhanced Raman spectroscopy for biodetection"</i></p>
<p>NANO-134: Kijun Kim, Korea Institute of Industrial Technology, Korea <i>"Electrochemically driven metal oxide from metal-organic frameworks (MOFs) and application to non-enzymatic glucose sensing"</i></p>
<p>NANO-135: Hana Lim, Korea Institute of Industrial Technology, Korea <i>"MWCNT-polyimide core-shell nanowire as high capacity cathode material for aqueous rechargeable sodium-ion battery"</i></p>
<p>NANO-136: Mingyu Yoon, Korea Institute of Industrial Technology, Korea <i>"A facile method for tuning the pore size of porous graphene aerogel and its potential application in controlled release of drug"</i></p>
<p>NANO-139: Kitirote Wantala, Khon Kaen University, Thailand <i>"Stability Effect of Nitrogen Cooperated Titanium (IV) Dioxide on Strongly Structural Properties and Photocatalytic Activities"</i></p>
<p>NANO-139(2): Kitirote Wantala, Khon Kaen University, Thailand <i>"Synergy of Fe and Cu loaded on NaP1 on p-Cresol degradation in Fenton-like reaction"</i></p>
<p>NANO-141: Prasit Thongbai, Khon Kaen University, Thailand <i>"Improved Dielectric Properties of Poly(vinylidene fluoride) Polymer Nanocomposites Filled with Ag Nanoparticles and Nickelate Ceramic Particles"</i></p>
<p>NANO-147: Jose Enrico Quinsa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland <i>"Surface-functionalized Silver Nanoparticles as High Permittivity Filler for Highly Flexible PDMS Nanocomposites"</i></p>
<p>NANO-148: Anna Cirocka, University of Gdańsk, Poland <i>"Carbon nanowalls structures in electrochemical measurements"</i></p>
<p>NANO-149: Thanin Putjuso, Rajamangala University of Technology Rattanakosin, Thailand <i>"Very high temperature stability and excellent dielectric properties of a novel X9R-type Ca_{1-x}Sr_xCu₃Ti₄O₁₂/TiO₂ nanocomposites synthesized by a polymer pyrolysis technique"</i></p>
<p>NANO-150: Błażej Scheibe, Adam Mickiewicz University in Poznań, Poland <i>"Study on magnetic properties of two-dimensional Ti₃C₂T_x (MXene) structures and Tin+1AlC_n MAX phases"</i></p>
<p>NANO-151: Błażej Scheibe, Adam Mickiewicz University in Poznań, Poland <i>"The influence of the oxygen concentration during MAX phase (Ti₃AlC₂) preparation on the porosity of multilayered MXene (Ti₃C₂T_x) structures"</i></p>

<p>NANO-152: Małgorzata Nadolska, Gdańsk University of Technology, Poland <i>"Phosphonated carbon materials for effective mercury ions removal from aqueous solutions"</i></p>
<p>NANO-154: Krissana Prompa, Khon Kaen University, Thailand <i>"Ni-doped CaCu₃Ti₄O₁₂/TiO₂ nanocomposite ceramics with high thermal stability dielectric and nonlinear electrical properties for X9R capacitor"</i></p>
<p>NANO-156: Jacek Ryl, Politechnika Gdańska, Poland <i>"Physic-Chemical and Anticorrosion Properties of Nanosized BiVO₄ Pigment Obtained by Sonochemical Assisted Hydrothermal Synthesis"</i></p>
<p>NANO-157: Artur Malolepszy, Warsaw University of Technology, Poland <i>"Influence of graphene/TiO₂ addition for infrared radiation shielding of PVA films"</i></p>
<p>NANO-158: Anna Wcisło, University of Gdańsk, Poland <i>"Towards electrochemical determination of enzyme activity – characterization of peptide modified gold electrode"</i></p>
<p>NANO-159: Anna Wcisło, University of Gdańsk, Poland <i>"Liquid-phase exfoliation of multilayer 2D black phosphorus in low boiling point solvents"</i></p>
<p>NANO-160: Bartłomiej Dec, Gdańsk University of Technology, Poland <i>"Ab-initio studies of electrical and optical properties of semiconductor diamond films: surface termination influence"</i></p>
<p>NANO-161: Marta Mazurkiewicz-Pawlicka, Warsaw University of Technology, Poland <i>"Preparation of PVDF/PMMA Composites with Reduced Graphene Oxide decorated with Iron Oxide for IR Shielding"</i></p>
<p>NANO-162: Marta Mazurkiewicz-Pawlicka, Warsaw University of Technology, Poland <i>"A Simple Method for Enhancing the Catalytic Activity of Pd Deposited on Carbon Nanotubes Used in Direct Formic Acid Fuel Cells"</i></p>
<p>NANO-163: Anna Dettlaff, Gdańsk University of Technology, Poland <i>"Electrochemical performance of phosphorene flakes exfoliated in organic solvents"</i></p>
<p>NANO-164: Anna Dettlaff, Gdańsk University of Technology, Poland <i>"Nanocrystalline boron-doped diamond: electrochemical performance of nanosheet electrodes"</i></p>
<p>NANO-165: N. Phromviyo, Khon Kaen University, Thailand <i>"Dielectric and Electrical Properties of Nano-Ag/12CaO×7Al₂O₃ Nanocomposites"</i></p>
<p>NANO-166: Mateusz Ficek, Gdańsk University of Technology, Poland <i>"Optical fibres coated with boron-doped nanocrystalline diamond fabricated by linear antenna MW PECVD: opto-electrochemical performance toward biosensing devices"</i></p>
<p>NANO-167: Aleksandra Wieloszyńska, Gdańsk University of Technology, Poland <i>"Biomolecules detection system based on Mach-Zehnder interferometer"</i></p>
<p>NANO-170: Bartosz Wicher, Warsaw University of Technology, Poland <i>"Reactive sputtering and optical investigations of tungsten nitride compounds using the Gas injection Magnetron Sputtering (GiMS) technique"</i></p>
<p>NANO-171: Justyna Witkowska, Warsaw University of Technology, Poland <i>"Comparison of corrosion resistance of NiTi shape memory alloy modified at low temperature plasma with carbon coatings produced via RFCVD and IBAD methods"</i></p>
<p>NANO-173: Natalia Górecka, Gdańsk University, Poland <i>"The Luminescent properties of Eu²⁺/Eu³⁺ in NaCaPO₄ matrix containing Si^{1p} defects"</i></p>

<p>NANO-183: Piotr Zachariasz, Institute of Electron Technology, Poland <i>"Study of magnetostriction and dielectric properties in planar SCTO-C1-xMxFO ($0 < x < 0.7$) magnetoelectric composites"</i></p>
<p>NANO-184: Piotr Zachariasz, Institute of Electron Technology, Poland <i>"Origin of magnetoelectric effect in multiferroic BiFeO₃-Pb(Fe_{0.5}Nb_{0.5})O₃ solid solutions"</i></p>
<p>NANO-193: Mohammed Al-Bahrani, Plymouth University, UK <i>"Carbon nanotubes reinforced nanocomposites for strain and fracture sensing in engineering structures"</i></p>
<p>NANO-197: Norimichi Watanabe, Kanagawa University, Japan <i>"Characterization of boron precipitates in heat-resistant steels using TOF-SIMS"</i></p>
<p>NANO-200: Monika Wilamowska-Zawłocka, Gdańsk University of Technology, Poland <i>"Silicon oxycarbide/graphite composite as negative electrode for lithium-ion capacitor"</i></p>
<p>NANO-206: Łukasz Macewicz, Gdańsk University of Technology, Poland <i>"Electrical Measurements of Multi-Layer Phosphorene Nanosheets Fabricated by Mechanical Exfoliation"</i></p>
<p>NANO-207: Sebastian MolinGdańsk, University of Technology, Poland <i>"Spray Pyrolysis Fabrication and Characterization of Diffusion Barrier Layers for Solid Oxide Fuel Cells"</i></p>
<p>NANO-208: Bartosz Holowko, Gdańsk University of Technology, Poland <i>"Nanocrystalline hydrogen electrodes for solid oxide cells obtained by infiltration"</i></p>
<p>NANO-209: Aleksander Mroziński, Gdańsk University of Technology, Poland <i>"Effect of infiltration of highly catalytic nanoparticles on polarization resistance of porous SrTi_{0.65}Fe_{0.35}O_{3-δ} for solid oxide fuel cells"</i></p>
<p>NANO-23: Sang-Chul Jung, Sunchon National University, Korea <i>"Fabrication of Gd-La codoped TiO₂ composite via a liquid phase plasma method and its application as visible-light photocatalysts"</i></p>
<p>NANO-187: Andrzej Nowak, Politechnika Gdańska, Poland <i>"BiVO₄ as an anode material for lithium-ion batteries"</i></p>
<p>NANO-187(2): Andrzej Nowak, Politechnika Gdańska, Poland <i>"Electrochemical Behaviour of Composite Material Containing Diatomic Earth and Carbon"</i></p>
<p>NANO-100: Akiya Sean Eban, Kanagawa University, Japan <i>"Modulation of a Josephson current through a Josephson junction with different shapes by two-dimensional scan of the external magnetic fields"</i></p>
<p>NANO-221: Karolina Ollk, Gdańsk University of Technology, Poland <i>"Electrophoretic Deposition of N-substituted Graphene Oxide Coatings and Their Evaluation of Physicochemical, Morphological and Anti-corrosive Properties"</i></p>
<p>NANO-222: Anna Prochownik, Gdańsk University of Technology, Poland <i>"TiO₂ Nanotubes Prepared in Electrolyte Containing Ionic Liquid - Etyloammonium Nitrate and Their Enhanced Photocatalytic Properties"</i></p>
<p>NANO-223: Emilia Gontarek, Gdańsk University of Technology, Poland <i>"Effect of graphene addition on membrane performance in membrane distillation process"</i></p>

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